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and PEDIC ITEMS

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CONTENTS:

Impetiginous Pedic Dermatoses
A. H. Montgomery, M.D. 5
The Standards of Chiropody Education
S. R. Levy, D.S.C. 11
Manipulation of Stiff Joints
Sir Robert Jones 13
Arthritis Deformans, Joseph Mark, M.D. 16
Correspondence 18
Editorials—Chiropodist and Shoe Man;
The Convention 20
National Association News 22
State Society News 24
Connecticut State Board Examination;
Questions and Answers 26

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JANUARY, 1922

IMPETIGINOUS PEDIC DERMATOSES

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NEW YORK
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The title of this contribution has been suggested by the many cases examined recently in clinics or referred to me by professional associates. As will be seen by reference to the case histories below practically all these pustular dermatoses are secondary to some underlying skin disease, particularly those accompanied by itching. They arise either by extension from some primary infection of a contiguous part or they are the direct result of scratching. The ubliquitous white staphylococcus and the yellow variety are in many of these lesions. Two or three strains of streptococci may be present, or there may be a combination of these. In addition more careful examinations are revealing in many stubborn "eczemas" the spores and mycelia of either the trychophyton or the epidermophyton, types of ringworm.

No matter what the underlying condition, and regardless of the effect produced thereby, the secondary infection must be treated primarily. One does not mind making an eczema somewhat more acute if by the proper antiseptic external medication and manipulation (evacuation, drainage, etc.,) the impetiginous process is removed.

The statement was made recently in THE JOURNAL, in the report of a paper read before chiropodists, that they (chiropodists) would not treat syphilis because they would not recognize it. In my classes at the Institute I have said for years that I felt that I would have failed in my efforts if the graduating students were not able to recognize syphilis as it appeared commonly on the feet. Fortunately, with exception of the moist papules between the toes, purulent lesions of the disease are rare in this location. For this reason I have purposely omitted consideration of syphilis in this series. By itself the spirocheta pallida does not produce pus. In such purulent conditions as broken down gummata there is always a mixed infection of the ordinary pyogenic cocci, and internal medication is usually reinforced by external mercurial dressings.

While brilliant results usually follow the discovery of fungi in many instances of so-called chronic eczema of the feet, often hopelessly relegated to the pigeon-hole of cases due to faulty metabolism, one must be sure of his ground before applying such stimulating remedies as Whitfield's ointment, chrysarobin, etc. In September there appeared at the Foot Clinics of New York, an elderly woman with a maddening eczema rubrum of both feet from the ankles down. Owing to faulty microscopic in-

terpretation, and in spite of the fact that she exhibited a generalized eczematous eruption, she had been given a strong sulphur ointment, with dire results.

The vast majority of suppurations of the skin are caused by two groups of microbes, staphylococci and streptococci. In each of these groups numerous varieties or species (strains) are distinguished. These varieties differ from each other in their morphology, cultural characteristics, habitat and virulence. Nearly all staphylococci are pus producing (pyogenic). By inoculation they may produce abscesses, peritonitis, septicemia, etc. They are widely distributed in the air, in dust and in water. They are regularly present in the mouth, at the natural orifices and on the skin. Streptococci are especially virulent. However, they are less numerous on the epidermis than the former.

Germs on the skin vary greatly in number according to circumstances. Remlinger states that from 85 to 1212 millions are left in a bath. They flourish luxuriantly in the moist and hairy regions of the body. Sabouraud has shown that they are more abundant around pathological lesions of any kind. Streptococci have a marked predilection for cutaneous folds. The moisture present between the toes constitutes a weak point in the epidermic armor and may account for the onset of so many pedic infections in this location. Ordinary leg ulcer is a streptococcus infection. Its continuance in this situation is due to the unusual moisture of the tissues due to venous stasis.

FIGURE NO. 1, DR. F. SCHMITT'S CASE

An impetiginous process arising on generalized acute eczema and generalized hyperidrosis of ten years duration.

Darier states that the portal of entry of pyogenic microbes is external in the vast majority of cases. The protective barrier formed by the horny layer is removed by traumatisms of all kinds, by parasites and by scratching. It is likewise impaired by maceration or by chemical lesions of the epidermis, such as those caused by strong antiseptics. Pre-existing lesions of the epidermis, eczematization, vesicles and blisters offer a ready-made culture medium for the pyococci. Superadded infection, superadded suppuration or impetiginization is therefore extremely common.

The degree of virulence of the parasitic pyococci and others is variable. The resistance of the "soil" also is variable. Staphylococci and streptococci both possess, due to their secretions, a vasodilator action and an attraction for leucocytes. The staphylococci attract the polynuclears

and produce a smooth, creamy, thick pus. The streptococci cause an outflow of plasm and the secretion of a turbid, serous fluid, or of a serous pus. Staphylococcic lesions tend to circumscription. Streptococcic lesions tend to peripheral extension.

Case 1. Referred by Dr. Frederick Schmitt. A man, 31 years old, married, presented a condition of true impetiginous eczema involving the dorsum of the toes of both feet. This infection complicated a generalized patchy eczema of six months standing, affecting all regions including the face and neck. The eczema of the feet was simply a regional episode in the general disease. This patient was interesting, moreover, in that he had a generalized hyperidrosis, quite intense at the time of examination, not confined to his feet.

The eczematous condition had begun on the hands and forearms, probably as a dermatitis from some external chemical irritant, a so-called "trade eczema." But, with the cause removed, owing to some cutaneous predisposition, in this person it developed into a true eczema. On the feet everything was favorable for a superadded infection. The left foot became impetiginous first. It is easy to understand how a transfer of socks overnight would account for the early infection of the other foot. As indicated in the illustration there is an abundant effusion of exudate, serous rather than purulent, which coagulated quickly forming yellowish crusts. In culture the streptococci predominated. A true impetigo presents lesions composed of vesicles, each containing a clear, serous fluid, covered by a thin corneous envelope which ruptures easily. But this process had developed on an epidermis already open, deprived of its stratum corneum. Only at the margin were the characteristic undermined corncous fringes evident. About the nails of some of the toes was a mild paronychia. The plantar surfaces were comparatively uninvolved.

FIGURE NO. 2. DR. GROSS'S CASE. Lichen planus with superficial infection from scratching.

Treatment had to be directed primarily against the pyogenic condition. For this purpose the toes were swabbed with aqueous solution of silver nitrate, 10%. Wet dressings of saturated solution of boric acid, changed every eight hours, were prescribed to get rid of the crusts and active inflammation. This was followed by an ointment composed of ammoniated mercurial ointment, 2 parts; and zinc oxide ointment, 6 parts, to be changed frequently.

Case 2. R. H. G., adult male, presented a well developed lichen planus of several months duration and limited to its favorite locations. The accompanying picture shows several typical elementary lesions: flat, angular, shiny-topped, violet-tinged, itchy, dry papules. The area of impetiginization at the heel was induced by scratching. While no bacteriologi-

the periphery the streptococci probably predominated. Treatment was left to the intelligence and skill of this patient.

Case 3. W. S., man, 26 years old, clerk, consulted the writer some weeks ago for a condition involving his right foot. In addition to the eruption illustrated there were many crusted, exudative lesions at the ends of the fourth and fifth toes, like that at the side of the great toe. There was also a deep painful fissure beneath the little toe. Covering the inner aspect of the foot that were numerous vesico-pustules, showing no tendency to spreading at the periphery. Some were intact; some had ruptured or been opened; some were grouped; some were drying. The process began at the side of the great toe as a small blister eight months ago. Later on pustules appeared on the sole beneath the longitudinal arch. A few weeks ago there arose at the side of the great toe an eczematoid patch. The pus was thick and creamy. Itching was not intolerable except occasionally. The staphylococcus aureus was recovered on culture. No fungi were found. No focal infection was discovered in this patient. His tonsils and adenoids had been removed years ago. Teeth were negative.

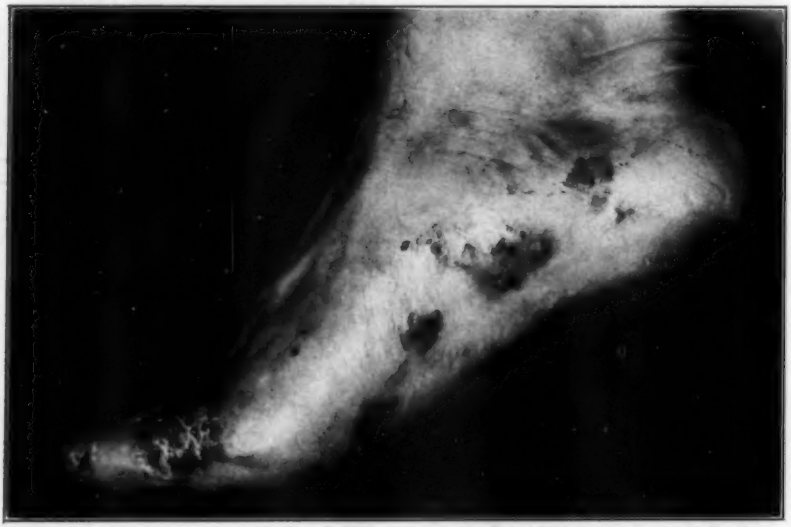

FIGURE NO. 3.

An example of infectious eczematoid dermatitis. Process began at side of great toe spread to other toes. Later pustular involvment of the sole and side of the foot.

Scar at heel made by a machine-gun bullet which traversed the plantar fascia diagonally to base of little toe.

The scar visible at the heel was made by a machine gun bullet which ploughed through the plantar fascia diagonally and was removed from beneath the little toe. This occurred shortly before Armistice Day.

The patient's dermatologic history included a patchy eruption below the ankle ten years ago, diagnosed as "South American eczema," and cured by "some brown liquid." Three months after his discharge from the army vesicles appeared between the toes of his left foot, but soon disappeared with the use of a foot powder.

Treatment for the condition photographed consisted of evacuation of the pustules and the application of the same mercury-zinc oxide ointment as in Case 1. applied twice daily. After one week this was changed to a modified Lassar's paste. In three weeks all lesions were healed.

This patient was presented before the class at the Institute as an infection that had become eczematized, with a reservation at the time as to the possibility of ringworm.

Case 4. W. P., 23 years old, ex-army man, gave a history of having had an eczematous eruption between the toes two years previously, intensely itchy, especially at bed time. This subsided with the onset of warm weather. A year ago a somewhat similar eruption appeared, with more maceration and distinct vesicles in the margin. One or two larger vesicles arose on the instep, but the bulk of the eruption involved the toe webs. In the present outbreak that region is only slightly affected, exhibiting a branny scaliness on a mildly inflammatory base. On the front half of the scale there are present numerous vesicles, containing an opaque fluid and showing little tendency to grouping. Behind the ball of the great toe is an acutely inflammatory patch composed of an open bleb or pustule, surrounded in the margin by smaller pustules. A fungus was found in the scales but the type could not be differentiated. There was so much contamination in the cultures that they were worthless. However, the yellow staphylococcus was isolated. This was probably introduced by scratching.

FIGURE NO. 4.

A long standing case of ringworm. Staphylococcus infection added by scratching.

After opening all fluid cavities the invasion was cleared up after six weeks use intermittently of chrysarobin, 20 grains, in petrolatum, one ounce, and Lassar's paste. The chrysarobin set up such a severe dermatitis that a soothing preparation was necessary after three days application.

The left foot was not affected, nor was there a history of any previous genito-crural invasion.

Case 5. A West Indian negro, male, age 28, had undergone two years of vigorous antisyphilitic treatment, including arsphenamine and mercury, for a recent infection. All injections had been discontinued six months previously. In the meantime he had two negative Wassermans. At the time of examination the writer had another test made which also was negative.

His eruption was limited to both hands and feet, palmar and plantar surfaces only. There had been two successive crops, ten days apart, of milky vesicles, pea-sized or smaller, having little tendency to extension at the periphery or to grouping. The photo was taken after the second outbreak. As may be seen there were numerous lesions in various stages deep-seated vesicles like sagograins beneath the skin; superficial vesico-

cal examination was made in this case, from its method of spreading at pustules; drying lesions, some capped by dark, brown scales; a few open patches with a scaly collarette or fringe; and in some places superficial impetiginous areas, the result of pyogenic infection. On top of the left big toe there was a pustule surmounted by a crust. The fluid content of unopened vesicles was either neutral or alkaline. No fungi were discovered. The staphylococcus albus predominated in culture. There was a fair degree of hyperidrosis pedis.

The patient stated that many lesions of the first crop had disappeared by absorption before the second outbreak.

FIGURE NO. 5
A case of pompholyx involving both hands and feet. Complicated by a pyogenic infection (staphylococcus albus mainly) no fungi found or cultured.

Except for the syphilitic infection he gave a negative previous skin history. Whether the underlying disease was pompholyx, which it resembled strongly as to its method of onset, limitation to hands and feet and characteristic lesions, or whether it was the result of the intensive arsenical medication, discontinued for six months, the writer is not prepared to state. Cutaneous lesions produced by arsenic are usually dry, keratoses or verrucae, of which there were none in this case.

Treatment was directed primarily to the infected areas. Calomel, half drachm, to the ounce of petrolatum, was applied twice daily. At the end of three weeks both the impetiginous areas and the primary eruption had cleared entirely, only a few pigmented spots remaining.

It will be noted that no account has been taken in the above article of those more purely surgical or chiropodial infections, such as the onychias, sinuses, abscesses, etc. Also those infections which accompany invasions of animal parasites from scratching have been disregarded, as the same antiparasitic treatment that rids the body of the bug also destroys the microbes.

In all secondary superficial infections external treatment must never be considered as sufficient. Owing to the tendency in some toward complications with deeper infections, cellulitis, lymphangitis, abscess, etc., the tissue resistance should be raised. This may be effected by dietetic measures, by tonics such as iron and cod liver oil and by suitable vaccines.

211 WEST 107TH STREET.

THE STANDARDS OF CHIROPODY EDUCATION

S. RUTHERFORD LEVY, D.S.C.
PHILADELPHIA, PA.

Real progress in the development of the profession of chiropody dates from the advent of the schools and colleges of chiropody in this country.

Prior to the birth of these educational institutions the status of chiropody was of doubtful character, and those practicing this profession were classified as tradesmen, rather than professional men and women, and subjected to all kinds of ridicule. The History of Medicine, by Garrison, mentions the chiropodist with the charlatans and fakirs of a former age, but this condition does not obtain today. Through the earnest efforts of those who conceived and executed the plans that started the schools and colleges, chiropody now stands beside the recognized professions. Let us ever continue to build up our standards until there will be no question of our professional rights and standing.

There are many who, though practicing chiropody or one of its subdivisions, feel ashamed of the name of chiropodist and lose no opportunity to throw mud at their own profession. I have in mind one who lectures at a chiropody school and who speaks of himself and his colleagues as corn cutters, and in other ways disparagingly of his profession.

Today chiropody stands as a profession recognized and legalized in twenty-six states of the Union, a profession in the fullest sense of the word because of the educational requirements exacted in the past few years; and notwithstanding occasional outbursts from our critics, the profession has gone upward and forward in the march of progress. Those who are striving for the greater heights, professionally and educationally, have every reason to feel proud and gratified at the results thus far achieved through the endeavors of the constructive element of our profession.

When we stop to consider the trials and tribulations and the early struggles of the medical science we should not be disheartened when confronted with discouraging arguments from some doubting Thomas, for "man is scorged to greatness by adversity and levelled to mediocracy by prosperity." Trials and opposition only tend to sharpen our faculties of perseverance and determination and fortify us to defend our cause in the name of right and justice. Medicine and dentistry did not always occupy places in the sun, shadows and darkness preceded the rays of sunshine. Not until the light and understanding of education became general did these professions flourish and prosper and gain the respect and esteem of the public.

Chiropody stands in a position, relatively the same position, as did medicine and dentistry in their early process of development, but our profession has the advantage of profiting from the experiences of the other professions that have gone before it, hence we have made more rapid progress in the last seven or eight years than ordinarily comes to a profession in thrice that time. What has evolutionized the profession of medicine, and dentistry in their development? What has been the instrument in the course of transition? What is the key-note to the success of any profession? Adequate preparation—EDUCATION.

Education is the very fountain head from which flows knowledge and wisdom, and without it we would be a powerless force in the interests of those we serve. Chiropodial education is acquired through the channels of schools and colleges located in New York, Chicago, Philadelphia, Boston, Cleveland and San Francisco. New Jersey having no school of this character still recognizes the necessity of regulation and has recently amended its statute governing chiropody by providing for the higher standards of education both academically and professionally. This state has raised the academic requirements from a common school education to three years of high school work, or the equivalent, effective in the cases of applicants who graduate after July 1, 1921, and four years in 1922, and recognizes only the degree of Doctor of Surgical Chiropody (D.S.C.) from an approved college as the professional requirement for admission to the State Board of examinations in that state.

At this writing each school creates and maintains its own standards of education. Let us hope that before long all schools will maintain equal standards. It is my personal opinion that the time is now opportune to advance the professional requirements of all chiropody schools to two years of day school and to eliminate the night classes entirely. The California College of Chiropody has already initiated this policy. The New York school has operated a one year day school since 1912; the Temple University since 1915; the Illinois, Ohio and Massachusetts schools since about 1914.

This age of progress now demands that we keep pace with scientific development and advancement and that we provide our incoming practitioners with knowledge that can only be acquired in at least two years of scientific education in the profession of chiropody. I believe it the province of the Council of Education of the National Association of Chiropodists to concern itself in just such matters.

New York, the Imperial State, was the first to organize a school, in the year 1911. This step blazed the trail that was soon traversed by many other states. San Francisco started the California College of Chiropody in August of 1914; Philadelphia came along with the School of Chiropody of Temple University in 1915; Chicago, Cleveland and Boston soon followed, establishing excellent schools for the instruction of scientific chiropody.

In my observations of the past two years I have noticed a keen desire on the part of most colleges to properly qualify their students for specialized work as well as straight chiropody. In only one college that I visited could I find no evidence of a real substantial character in the matter of chiropodial orthopedics; twelve chairs were being used for ordinary chiropody, but not one chair was designated for chiropodial orthopedic work.

Chiropodial orthopedics is an important subject in the curriculum of any school of chiropody, and permit me to say that the future of our profession depends in a great measure upon the development of this specialty. Chiropodial orthopedics should not only be a didactic subject but a clinical one as well. The N. A. C. scientific program at San Francisco last August bears me out in this contention. I distinctly recall the words of a physician friend, who said in all good faith: "Chiropody will never amount to anything professionally until such time as it develops the means of diagnosing, treating and affecting cures in many of the foot lesions

recognized as a source of pain and annoyance." In answer to this statement I will say that Chiropodial Orthopedics, taught in the clinic as well as the lecture room, is a solution to this problem and fills a long felt want.

I feel highly optimistic of the future of chiropody and confidently predict a full measure of success for it. Let everyone interested in the profession encourage the good work done thus far and oppose any attempt to arrest the remarkable development made in recent years. Let solidarity of purpose and chiropody interests be the watchword to direct us to the olftiest heights of professional attainment, to the end that chiropody will be ultimately recognized as a member of the professional family.

MANIPULATION OF STIFF JOINTS

SIR ROBERT JONES
LIVERPOOL, ENGLAND.

One of the difficult problems presented to a surgeon is the decision as to when a stiff joint is to be moved and when it is to be rested. In other words, the diagnosis between a joint rendered stiff from active, even if very mild, arthritis, and a joint hampered in its movements by adhesions or adaptive muscle shortening.

An arthritic joint is dependent upon rest as a preliminary to motion. A joint restricted in its movements by extra-articular adhesions has to be approached with the view of movement active and passive. If adhesions do not yield readily to active and gentle passive efforts, the question of more forcible methods has to be considered. Attempts at moving arthritic joints lead to greater stiffness in consequence of inflammatory reaction. It is necessary, therefore, to emphasize certain principles to assist us in making a diffierential diagnosis.

A painful joint which is rigid in all directions is the seat of an arthritis, while a painful joint which is rigid in certain directions only—movements being normal in others—is free from arthritis. This is more obvious in joints such as the wrist, shoulder, hip and spine, which have a comprehensive range of movement, than in joints such as the elbow, ankle and knee, where the movements are practically limited to flexion and extension.

If there be no limitation of movement in a suspected joint, there is no arthritis. In early cases the rigidity must be examined for without an anaesthetic, as it is primarily due to protective muscular fixation. Later, contractures or muscle shortening will follow as secondary effects, but by then a diagnosis will be obvious. One illustration will suffice to make this clear. A girl complains of pain in the dorsolumbar region of her spine. The surgeon asks her to flex, extend, rotate and laterally move her spine. If she can do so she has neither adhesions nor arthritis. Another may have great tenderness over her spine, and is unable to fully flex or laterally deviate her spine, but she can hyperextend. This case can be assumed free from arthritis and may probably have adhesions. A third case is rigid in every direction, and her condition may be diagnosed as an arthritis.

This classification requires modification when we deal with fractures

* Extracts from an article printed in The Journal of Orthopedic Surgery.

into joints with bony blocks, or with myositis ossificans in the muscles surrounding a joint.

Adhesions may be divided into two groups—(a) intra-articular; (b) extra-articular.

Intra-articular adhesions may be the result of rupture of joint capsule, of hemorrhage, or of the plication, with adhesion, of the synovial membrane. Rupture of the intra-articular ligaments, such as the crucial and ligamentum teres, do not give rise to adhesions with require surgical attention.

Extra-articular adhesions may be connected with the capsule, the ligaments, muscular origins or insertions, rupture of the muscular fibres or blood extravasation into tendon sheaths. Stiffness of the joint may also be the result of adaptive muscular shortening, physiological in character, or it may be due to loss of resilience in the sheaths surrounding muscle and muscle fibre.

Prolonged immobility of a healthy joint will result in temporary stiffness, which is usually due to adaptive shortening of structures, and this can be rectified without forcible manipulation.

The stiffness of the knee following a simple fracture of the shaft of the femur is usually overcome in three or four weeks if the fracture is not in the neighborhood of the joint. If the fracture has been compound and septic the stiffening is often most intractable and may give the surgeon much anxiety, but our war experience has taught us various methods by which joints may be kept mobile while the fracture heals.

THE PREVENTION OF ADHESIONS

Adhesions are avoided by early and safe resort to active and passive movements. These movements should be practically painless, and should consist mainly in assisting the patient to move his own joint. If there has been no direct injury to the joint the proposition is a simple one, but care is needed that the movements practised on the joint are not conducted to the fractured shaft, while means should be adopted which will permit uninterrupted extension. It is here that the training and ingenuity of the orthopaedic surgeon counts.

In direct injuries to joints unaccompanied by fracture, movement may be given immediately on the cessation of acute symptoms. The joint should be immobilised until the acute symptoms have passed. The clinical test of the cessation of acute symptoms is the disappearance of swelling and tension pain. When local effusion and tenderness abate, the patient may be allowed to commence gentle active movements. He will surely be careful to move the joint gently enough to avoid pain and danger. *In the case of children,* gentle passive movements may be started before active movements, and they should be so conducted that the joint is ultimately moved in each direction that its anatomy permits. The full range of movement should not be attempted at once, nor should be designed to gently free the way for movements in order to prevent the formation of adhesions. It is necessary that the child's confidence and good will should be assured. You cannot give of your best to a child who fears you. A surgeon who deals with a child should gain its trust and love.

ON BREAKING DOWN OF ADHESIONS

Light adhesions may be broken down under gas, or gas and oxygen; if strong and resistant, full anaesthesia is best. Complete muscular relaxation is rarely obtained under gas, and, in consequence, the surgeon is less able to guage the force he should apply. The joints should be moved through the full anatomical range unless the adhesions are extremely firm. If firm and resisting, the movements should be less complete, and full mobility should be secured in stages. The advantage of the use of gas is that the movements may be voluntarily practised almost at once, and this is of considerable psychological advantage. After all adhesions have been overcome, and while the patient is asleep, the limb should be placed in the position of full correction until he recovers consciousness and is able to make a voluntary effort. This helps to emphasize the right of way, and furthermore, has a good mental effect, for the patient, when he becomes conscious, realizes that the obstruction has been overcome. The earlier movements are practised after manipulation the better, for the pain is less acute and the results more rapid and effective. If, however, the manipulation has been very severe and reaction is feared, it is advisable to fix the limb for a few days, in the corrected position in order to rest the assaulted joint, to compare its range of movement with that of the opposite side. Unless this is done, it is easy to produce a sprain.

If, as a result of manipulation, the range of movement is diminished, it is fair to conclude that the after-treatment has been defective, or that the manipulation has been ill-advised. After the joint has been conducted through its complete range of movement once, it is useless and often harmful to repeat the procedure. The "pump handle" method, as applied to the breaking of adhesions, or the practice of passive movements, is to be avoided. Voluntary efforts, however, can be repeated with advantage as often as the patient can be persuaded to make them.

Passive movements and the breaking of adhesions by manipulation in the presence of fracture near a joint, should be most carefully performed. The fracture should be adequately protected from strain by closely applied splints.

If effusion should take place in a joint after manipulation, it is strongly suggestive of the rupture of intra-articular adhesions. Such effusion does not necessarily imply that the manipulation should not have been employed *unless* the effusion is accompanied or followed by a diministed range of movement. If the range of movement is diminished by use and exercise, the joint requires rest. If, even in the presence of pain, the range of movement is increased by exercise, rest is contra-indicated.

The rupture of typical adhesions is heard and may be felt under the hand. If no click is heard or felt, but the resistance is overcome by a gradual stretching, the prognosis is not so good, and the joint should be retained at rest for a few days in its new and corrected position. Passive movements should then be gently practised. Pain which is sharp and of short duration is negligible, but if pain continues for protracted periods, it means a reaction likely to be followed by increased stiffness, and calls for rest.

ARTHRITIS DEFORMANS

JOSEPH MARK, M.D.
NEW YORK.
Professor of Physiology, First Institute of Podiatry.

Arthritis deformans is a chronic disease characterized by atrophic and hypertrophic variations in the joints, resulting in changes in the cartilages, synovial membrane, and in the ends of the bones. It is sometimes called osteoarthritis or rheumatoid arthritis, and since it includes a variety of joint diseases is often associated with many other distinct illnesses.

The cause of anthritis deformans is probably infection, although as yet no micro-organism has been found that is responsible. Some writers believe it is due to nervous lesions which result in changes in the joints. The greatest prevalence of the disease is between the ages of 20 and 50 years. Possible causes are mental and physical depression, shock, nervous strain and exposure, as well as, occupational and other forms of traumatism. Since infection may be the cause, it is important to examine every case for the foci of disease, *e. g.*, pyorrhea, tonsilitis, sinusitis, intestinal putrification and genito-urinary infections, etc.

The symptoms are varied both in their onset and in the course of the disease in different cases. The onset may be gradual, or may occur with a series of articular attacks that result in chronic changes in the joints. Often the first symptom is a sensation of distress, rather than pain, in the knee-joint, in which the patient complains of a feeling of roughness or stiffness after the knee has been in one position for any time and the knee "cracks" when it is moved. After one joint becomes affected another gets involved and gradually, when many joints are affected, the patient becomes more and more incapacitated. The joints are swollen, but rarely reddened, and the muscles around the joints slowly atrophy, thus, increasing the inability of the patient to move about with ease. Later on, the disease may involve all the articulations, both large and small, and the patient will become paralyzed from fixation, but this does not occur in many cases. The disease may involve only one part and then cease to progress, or it may attack only the small joints and not the large ones, etc. Pain varies from none in some cases to severe pain in others. Since the manifestations of the disease are sometimes limited to one part of the body or even to one kind of joints, and sometimes to several joints, it has been customary to call the limited cases monoarticular and the general involvement polyarticular in type. If the fingers are chiefly diseased, so that the joints are locked by the growth of small, bony knobs on the sides, the growths are called "Heberden's nodes." A rare form is sometimes found in children, in which the general arthritis may or may not be associated with exostosis, but there is always considerable swelling of the joints. Some cases show the presence of the disease in the spinal articulations only, and this form is called the spondylitis type. The vertebral form is a state of spinal fixation often associated with pain, compression of the spinal nerve roots, and a resulting muscular atrophy.

The morbid anatomy in arthritis deformans in the early stages of the disease is not well known because autopsy is rarely performed until late in the disease. It is, however, known that the tissues are inflammed, and the synovial membranes are hyperaemic. Later, the inflammed parts be-

come fibrous and then the absorption of the cartilaginous coverings of the ends of the bones take place. Finally, bony growths develop and they lock the joint. The muscles which control the joint-movements atrophy, and the skin over the joints show a glossiness due to changes in the epiderm. The nails often show wasting and they are greatly thinned and very brittle.

The diagnosis is easy in those cases where the patient is bedridden and bony knobs have locked the joints. Early diagnosis often presents more difficulty. Cases that have a history of sudden onset, with stiffness, pain and soreness in the affected joints, must be differentiated from true forms of articular rheumatism. This is sometimes impossible. If endocarditis developes or if the attack passes from joint to joint and diminishes in the first joints as others become involved it is a case of rheumatism, because in arthritis deformans endocarditis is rare and the joints first affected do not get well. In rheumatism the joints involved are both more painful and more tender to the touch.

As regards the prognosis, it is said that a fully developed case of arthritis deformans is incurable, and that the absence of future freedom of movement is fairly sure.

In considering treatment it is best to have the patient live an out-of-door life in an equable climate if possible. The home should be dry with good ventilation, but no draughts. Other important points of treatment are regularly of meals and sleep, systemic exercise (piano-playing and knitting for fingers, bicycling for knees, etc.,), general gentle massage, tonics, such as iron. Stimulation should be employed locally. This can be accomplished by the use of some of the following means: compresses of hot saline solutions; hot mud, vapor, sun or electric light baths; dry baking for about half hour daily at 350°F.; alternate hot and cold douches; deep massage above the affected joint; passive movements; and high-frequency currents. Deformities of joints should be corrected by gradual force, or by a series of plaster splints. During those acute stages of the disease in which local heat and swelling are present, all active treatment should be withheld, and the patient should be put to bed with the joint surrounded with cotton and supported with splints. Faithful treatment continued over a long period of time has often resulted in material improvement. The disease, in most cases, is self-limited, and so is greatly aided by protective treatment which will tend to conserve mobility.

126 WEST 117TH ST.

The second article of the series from the pen of Nicholas Von Schill has been delayed in preparation because of the illustrative photographs accompanying it being unsatisfactory. For this reason the article does not appear in this issue. Just as soon as these illustrations are prepared, the paper will be published.—Editor.

The amount of money contributed to the coffers of the Foot Clinics of New York is not definitely known at this time, but we understand that the committee is well pleased. A full report will appear at an early date.

CORRESPONDENCE

December 21, 1921.

Editor, The Journal:

It is a healthy sign when papers read in The Journal are discussed.

Dr. Keller in the correspondence column of the December issue takes exceptions to an opinion expressed by het write and also states the cause of metatarsalgia.

To be brief the writer stated one of the many causes of metatarsalgia is the uneven inner-sole. To make this clear the writer would have those interested in this lesion to first examine an X-ray of the plantar surface of the foot. It will show the heads of the second, third and fourth metatarsal bones extended beyond the first and fifth. Now place the fingers on the table, the tips correspond to the heads of the metatarsal bones and have very closely the same position as do the heads of those bones. Let the hand rest on the tips of the fingers and the wrist, then raise the wrist from the table and note the rolling forward of the tips of the fingers. Now, visualize the same thing taking place in the shoe. In walking when the kickoff is made the heel is raised from the floor and the weight is transferred wholly to the ball of the foot, to the heads of the metatarsal bones.

That body weight is back of the pressure and that pressure is pushing on the poor quality of inner-sole leather which it is generally made of and the rolling forward under this pressure of the heads of the metatarsals pushes the ground cork filler out of its bed. The constant bending of the shoe sole at the ball aids in breaking up the filler and dislodging it.

If the inner-sole is examined the sides over the welt are elevated, the center of the ball is depressed and anetrior to the ball the filler makes a ridge that extends across the sole. The elevated sides with the depression in the center of the ball of the shoe gives it a rounded or rocker bottom for the ball of the foot to rest on.

Now what happens to the foot? The first and fifth metatarsals on account of the welt function on a higher level than the second, third and fourth and with the pressure of the body weight forcing the heads of the second, third and fourth into this depression the muscles and ligaments that aid in forming the anterior arch eventually fail.

In the rolling forward of the heads of the metatarsals the nerves are caught between the heads of the bones and the dislodged ground cork that with the poor quality inner-sole forms the transverse ridge.

At this time the writer will call attention to the leather filler that he recommends to take the place of the ground cork filler. The leather used must be flexible and harness leather seems to be the best.

A firm smooth tread base and the toe of the shoe formed so as to permit the toes to extend so as to function normally a majority of the cases of metatarsalgia will be permanently relieved.

With best wishes to you and the members of the profession for 1922.

Yours fraternally,

E. C. RICE.

OF WHAT VALUE IS THE FIFTH TOE?

Editor, The Journal:

After reading the article under the above caption by Dr. A. D. Kurtz in the November issue of The Journal, I cannot help but take this issue with him.

He asks, "How many feet do we see in this day and generation in which the fifth toe has any useful function?" On every foot that has a fifth toe, that toe has useful, yes, very useful functions.

Bear in mind that the posterior end of the proximal phalanx of that toe not only helps to form the most important point of Nature's weightbearing tripod, but also the anterior pillar of the strongest and most important weight bearing arch of the human foot. Every time one goes forward on the ball of his or her foot the fifth toe, as well as all others acts as a springing lever and buffer which takes from the anterior transverse arch 60 percent of the weight of the body. This arch is not a weightbearing arch. It is the arch of the locomotion in which the toes play an important part. To illustrate the above, try to walk say ten blocks, keeping your toes in a dorsi-flexed position, not letting them touch the sole of your shoe as you complete your steps, and see what your condition is at the end of your journey, provided you can go that far.

"Can a person walk without the little toe and not limp?" Absolutely. I agree with him, but what does that prove, and why? It proves nothing. The fourth toe takes over as much of the function of the little toe as possible. until that fourth metatarsal drops and then—Morton's toe. A person may have one of his kidneys removed and live. The other kidney shoulders the load. He can get along with one, but it is no argument that he only needs one and must submit to the knife and eliminate the other.

He cites several cases where such an operation had been made and gives favorable prognosis in all cases, but—from two weeks to thirty days after operation. Now then, what will be the prognosis say three to five years after these operations, especially if the persons have put on weight, or their vocations are such that they are required to be on their feet a major portion of the day? It is safe to say that at least 80%, if not more, will be suffering from flat foot, metatarsalgia or Morton's.

In 85% of all structural weakness of the foot, an almost perfect correction can be obtained if the foot is padded and strapped so as to force the patient to tread normally on Nature's tripod and to force them to throw the major portion of the weight of the body on the external longitudinal arch. Why? Because you are placing that foot where Nature intended it should be and in doing so you are enlisting the aid of what is every physician's greatest ally—Nature. Where one willfully does that which is antagonistic to Nature, Nature retaliates strongly and demands its pound of flesh. So why partially destroy a joint that is so important to the well being of the human foot, thus causing more severe trouble to develop in years to come. It is for this very reason that the percentage of "favorable prognosis" in hallux valgus operations is not large enough to class the present operations as successful, and yet the great toe is allowed to remain. If the hallux valgus operation weakens the internal anterior bearing of the tripodinal, how much less will the amputation of the little toe at the metatarso-phalangal articulation weaken the external anterior bearing?

There are some conditions where the amputation of the fifth toe would be the choice of the lesser of two evils via, necrosis of the bones, diabetic gangrene, etc., but to amputate the "little pinkie" because of a corn or distorted condition would be like severing the tendo achilles in the case of infantile paralysis. The foot would eventually be in a worse condition and above all beyond reconstruction.

M. A. BALLINGER, M.D.

Port Arthur, Tex.

To The Profession:

530 subscriptions to Foot Orthopedics have been received. As soon as 70 additional subscriptions will have been received, arrangements will be made with the publisher to print this volume. Intending subscribers should remit two dollars ($2.00) by postal money order. This insures the publication of their name in the body of the book as original subscribers to the same. The completed volume will be sent to all subscribers as soon as published and on the receipt of the volume by the subscriber, the balance four dollars ($4) is to be paid.

Foot Orthopaedics will be the most complete recountal of the signs, symptoms and treatment of foot conditions ever published. The volume will be extensively illustrated and will otherwise prove a veritable encyclopedia of foot knowledge. Every subject treated will be described in the most comprehensive manner and with the thought in mind that "plain words are best."—Book Dept., First Institute of Podiatry.

Editor, The Journal:

Recently checking up over three hundred clinic cards of orthopedic cases I found a majority of weak foot and strained foot cases followed a period of sickness. I believe therefore, the following advice should receive prominence in The Journal:

On getting out of bed no surgical patient should ever attempt to walk around in bedroom slippers or anything but regular walking shoes. For a patient whose muscles and ligaments have been relaxed by several days or weeks of rest in bed to walk without shoes is almost certain to cause weak or strained feet from which it may take them months to recover.

Yours fraternally,

EDWARD H. KELLER.

JOURNAL of the NATIONAL ASSOCIATION of CHIROPODISTS

AND PEDIC ITEMS

Editor and Business Manager

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CHANGE OF ADDRESS notice must give both old and new address.

COMMUNICATIONS concerning more than one subject—manuscript, news items, reprints, change of address, payment of subscriptions, information wanted, etc.—correspondents will confer a favor and will secure more prompt attention if they will write on a separate sheet for each subject.

ADVERTISEMENTS—Advertising forms go to press on the 20th of month. To secure insertion, cuts and copy must be in on that date. Rates on application.

MANUSCRIPTS should be typewritten, double-spaced, and the original, not the carbon copy, submitted. Carbon copies of single-spaced manuscripts are not satisfactory.

ANONYMOUS CONTRIBUTORS, whether for publication, for information, or in the way of criticism, are consigned to the waste basket.

CHIROPODIST AND SHOE MAN

It has seemed to us for many years that there has never been the proper contact established between the chiropodist and the shoe store and we have felt, in this connection, that some of the additional benefits the chiropodist could bring to the public were lost because of this state of affairs.

No doubt there are many instances where the shoe store has been antagnostic to the chiropodist and that this ill feeling has in a measure been the cause of this lack of cooperation, but there are many stores in many different localities where no antagonism has been engendered, and where whole-hearted cooperation should obtain for the benefit of the foot suffering public.

It seems to us that this contact should be carried still farther to the shoe manufacturer and, while in isolated instances this is done by individuals, it is not the general rule and practice of the profession at large.

After all, our part in the general scheme of things is to relieve and cure foot abnormalities, be they what they may, and it seems particularly ridiculous if we endeavor to relieve the condition by our ministrations in the office and do nothing whatsoever to request or demand the use of proper shoe gear subsequent to our treatment so that the effects of it may be lasting or, perhaps, permanent. No doubt a very large proportion of all foot troubles are occasioned by improper shoes, and if improper shoes are continued to be worn during treatment, for a condition caused origin-

ally by the faulty foot gear, we certainly cannot expect much of a result if the greatest element of fault, the shoe, is continued to be worn.

The chiropodist, unfortunately, does not know as much about shoe fitting as he should, but that does not prevent his looking upon the shoe store as a prescription center where his patients may be sent with definite instructions as to shoes and where his instructions will be carried out to the letter, modified only by the shoe fitter's suggestions as to the special adaptability of certain lasts to the case under observation.

In many cases this ideal is not realized because the shoe fitter presumes to further diagnose foot and leg conditions, and in some instances in the past, has gone so far as to denounce the chiropodist who sent the patient and to entirely disregard his diagnosis. This, of course, is entirely the wrong attitude, and the shoe fitters who have deemed it wise to conduct their business in this manner have unquestionably suffered through their exaggerated ego. On the other hand the chiropodist should realize that he is not all familiar with shoe fitting and that the experience and the ability of the shoe fitter must be called into consultation if the public is to be properly shod.

We leave this as a thought for the New Year, and if a closer contact can be developed between the chiropodist and the shoe fitter, we feel sure that added benefits are to accrue to both of them, and through them, to the foot suffering public.

THE CONVENTION

As the new year dawns, all eyes are naturally beginning to focus themselves upon Chicago and the Eleventh Annual Convention which is to be held in that city at the Drake Hotel, on August 7, 8, 9, and 10, 1922.

The Illinois Society through its various committees, is hard at work on the plans for this convention and they assure us that nothing is to be left undone which will make for the interest and pleasure of those who will be fortunate enough to travel from the various parts of the country to the great city on the shores of Lake Michigan.

It is altogether fitting and proper that the ceremonies which will be held at Chicago next summer, will be, in a sense, an anniversary of the founding of the association as well as a jubilee commemorating the wonderful advancement that has obtained since its formation.

Let one of your New Year's resolves be to attend this coming meeting at Chicago and to bring with you the spirit of good will and good fellowship, which always means so much at our annual meetings.

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NATIONAL MEMBERSHIP CONTEST

After lengthy deliberation and full discussion with the officers of the N. A. C., the Membership Committee takes pleasure in announcing the institution of a National Membership Contest to be entered into by all the affiliated state societies.

This contest is open to each state society affiliated with the National and is made retroactive from the date of the last convention The contest will close on May 31st, 1922, and the conditions covering this contest are as follows:

To the state society which presents to the National Secretary the greatest number of new members for the period stated above in ratio to their membership as shown by the official roster sent to the National Secretary's office on June 1st, 1921, the N. A. C. will award a prize in the shape of the railroad and pulman fare of the state delegate to the Eleventh Annual Convention to be held in Chicago on August 7, 8, 9, and 10, 1922.

In the event of two or more states having the same percentage of new members, the winner will be chosen by a drawing at the convention.

The slogan of this campaign is: "Each member a new member."

The National assessment for each of these new members must be sent to the National Secretary's office before May 31st, next, and these may be pro rated from the date of admission to the date of the ending of the contest, at the rate of forty-two cents a month.

A table showing the results to date will be published in the February issue of The Journal and with the issue of each succeeding month will be shown the returns to date.

No state society has had any information regarding this so that the matter of making it retroactive to last August is as fair to one as it is the other, and gives the state societies credit for the membership work they have been doing the past five months.

Copies of "Chiropody Preferred" and special notices of this campaign will be mailed to the secretary of each affiliated state society.

Each member a new member!
Have you got yours?

THIRD VICE-PRESIDENCY

President Ramsburg, for the Council, take pleasure in announcing the selection of a third vice-president to complete the term of S. Rutherford Levy, resigned, as Frances M. Golden, of Rochester, New York. Inasmuch as Dr. Golden's advancement from the Council to this office occasioned a vavancy in that body, Armilia Bibeau, of St. Paul, Minn., was chosen in her place. The choice of Dr. Golden was unanimous except for her own vote.

DIRECTORY

The 1922 Directory is now on the press and should be ready for distribution within two weeks. This will be sent to each member of the Association without charge but a subscription price of $1.00 is to be made to all people not members of the association who desire copies of this important book. At the time that the Directory is sent to the members of the Association, the amendments to the Constitution and By-Laws, enacted at the last convention in San Francico, will also be enclosed.

CHANGE IN CONVENTION DATES

The members are hereby officially notified that the dates of the coming convention to be held at the Drake Hotel, Chicago, Ill., are changed from July 31st, August 1st, 2nd and 3rd to August 7, 8, 9, and 10, 1922. This change has been occasioned because of the Illinois Society being unable to make arrangements with the hotel for the earlier days.

The Drake Hotel is one of Chicago's latest and most modern houses and is situated directly on the shores of Lake Michigan about one mile from the center of the city. It is a beautiful house and we feel sure that our meeting will never have had a finer setting than that which Chicago offers us.

Further detailed information regarding room reservations, etc., will appear from time to time in these columns of The Journal.

ORGANIZATION COMMITTEE

The Organization Committee is pleased to report at this time that the State of North Dakota has been organized and has also applied for affiliation with the National Association of Chiropodists. President Ramsburg was present at the organization meeting of the North Dakota Society and reports that, while it is few in number, these members are highly enthusiastic over the work of chiropody. The committee wishes to report further that it is now in correspondence with chiropodists in Colorado, Georgia, Florida, Kansas and South Dakota with the idea of bringing about more complete organization in these states.

EDUCATION COMMITTEE

The Education Committee wishes to report that it has distributed the subjects of the quiz among the following colleges: The First Institute of Podiatry, Temple University, Illinois College of Chiropody, California College of Chiropody. These subjects have been distributed in the following manner: New York, Orthopaedics, Bacteriology, Pathology; Philadelphia, Anatomy and physiology; California, Physical Diagnosis and Materia Medica; Chicago, Surgery, Dermatology and Histology.

It further reports that the faculties of these various institutions are now at work preparing the questions and answers which are to comprise this very complete quiz compend, and that they will be published as soon as they are prepared.

COMMITTEE ON PUBLIC INFORMATION

The Committee on Public Information wishes to report that it is now preparing a series of ten articles to be distributed to 200 newspapers in various of the states. These papers are to be used as news articles in towns of 50,000 population or over. The topics of the articles will comprise the following: High heeled shoes pointed shoes; proper foot wear, watching childrens feet, the fitting of childrens shoes, general care of the feet, treatment of foot abnormalities by physicians or chiropodist, selection of foot wear for different vocations, short shoes and stockings, etc., etc.

SCIENTIFIC COMMITTEE

The Scientific Committee reports that it has prepared a glossary of subjects to be used for scientific purposes at some later date. It also reports that it is busily at work on the arrangements for the next annual convention.

ANNUAL CLINIC BALL

The annual ball of the Women's Auxiliary to the Foot Clinics of New York is to be held in the Hotel Waldorf-Astoria on Wednesday night, February 15th, 1922.

This annual function has always been well attended, the friends of the profession coming from various parts of the State and from adjoining states to participate in the festivities.

The coming event will be likely to eclipse all previous affairs of the kind because with time, the Clinics are growing in importance and in worth and in consequence they are making new friends outside the professional field.

CALIFORNIA

On Thursday, Nov. 10 ,1921, the California College of Chiropody tendered a banquet to the Faculty at the St. Germain Cafe. Dr. J. A. Lesoine, President of the College, was called upon by the marks. Dr A. Gottschalk, Dean of the College, was Toast Master, and discussed the curriculum and the ethical standing of the College to the Members of the Faculty. And that the "California College of Chiropody" was very highly estimated in the eyes of the State Medical Board. Dr. Gottschalk also spoke at length on the relation of the professor to the student. The Dean also discussed the relationship of the Doctors of Medicine to the Chiropodist and emphasized the good fellowship which existed and stated that he looked forward to the time when a Chiropodist would be on the consulting staff of every big Hospital. In closing his very interesting talk Dr. Gottschalk requested the hearty co-operation of all the faculty in assisting the chiropodial profession in the state.

A teachers' counsel to handle the affairs of the students was named: Dr. Gottschalk, Chairman; Dr. Frank Shay, Mr. G. T. O'Sullivan, members.

Dr. O. L. Gruggel, the first President of the College, made the opening re-Toast Master. Dr. Gruggel spoke of the wonderful advancement the College and Profession has made from the time of its infancy to the present date. Dr. Gruggel attributed this wonderful advancement to the hard work and co-operation of the Chiropodist and those connected with the Institution.

Dr. George K. Herzog took the graduates to task and encouraged them to get busy.

Dr. Joseph J. Kavanaugh, Professor of Orthopedic Surgery, spoke of the large Orthopedic Clinic, which was available at the College at this time, and he discussed the features of Orthopedic work very thoroughly.

Others who gave interesting talks were Dr. Samuel Goldman, Professor of Physiology; Dr. E. A. Craw, Professor of Mechanical Chiropody, Dr. Miriam S. Davis, Professor of Bacteriology and Histology; Dr. Boris S. Herman, Professor of Aanatomy; Mr. Joseph A. Garry, Attorney at Law, Lecturer on Medical Jurisprudence; Dr. Helen Z. Cruttchett, Associate Professor of Clinical Chiropody; Dr. J. Cameron Pickett, Professor of Dermatology; Dr. A. D. McLean, Professor of Syphilogy and Urology; Dr. Ella Z. Foster, adjunct Professor of Orthopedic Surgery; Dr. Sass, Clinician.

Others present at the banquet were: Dr. Thomas Thomson, Dr. Alma P. Dalbey, Dr. E. Lesoine, Dr. E. T. O'Brien, Mr. G. T. O'Sullivan, Dr. A. Roscoe Watts, Dr. G. A. Gottstein, Dr. Edith Potts Jackson, Dr. Emma Anderson, Dr. Harriett Robbins, Dr. W. A. Naylor, Dr. H. I. Fleissig, Dr. Coulter, Dr. Burns, Dr. Milkin, Dr. Harry Davis, Mr. Burns, Dr. Sample.

In closing, the Dean thanked the Faculty as a whole for their splendid co-operation, and voiced his hearty approval of their attitude toward the profession.

LOUISIANA

The members of the city branch of the Louisiana State Chiropodists' Association, held a gathering at the Louisiana Restaurant where they enjoyed a fine supper; following which Dr. Nellie B. Cooper, formerly from Chicago, now located at Baton Rouge, and a member of the State Chiropody Association, gave a lecture on strapping, bandaging, and exercises for weak and flat foot.

The following chiropodists and guests were present: Dr. J B. Osborne, Dr. Hannah Osborne, Dr. Robert Murphy, Dr. John Liuzza, Dr. A. Braun, Dr. Mary Mullen, Dr. Wellman, of Hot Springs, Ark., Dr. R. Mascaro, Dr. Le Besque, Dr. W. R. Strange, M.D., also Mrs. Welman, Mascaro, Liuzza.

MONROE COUNTY DIVISION

The Monroe County Division had the extreme pleasure of entertaining Prof. O. F. Schuster of New York, Drs. J. C. Arbogast, C. Rabe, Mrs. Rabe, J. Schultz, J. Paulin, T. Foster, R. Cohen, L. Elliott, George Connor and wife and Mr. Davis of Buffalo and Dr. A. M. Savage and Mr. T. Foster of Syracuse at a banquet at the Powers Hotel, Rochester, N. Y., Saturday evening, November 26th.

After the banquet Prof. Schuster gave a stereopticon lecture which embraced modern methods of examination in foot ailments to differentiate between symptoms caused by constitutional diseases and local mechanical foot ills. The effects of the high-heeled shoe on the foot and the body were vividly demonstrated. Up-to-date adhesive- and plaster of Paris dressings as used in the foot clinics of New York

formed an important part of the lecture. The speaker seemed to enjoy the lecture as much as the audience who rewarded his efforts with an enthusiastic ovation. Dr. Agnes Connor, chairman of the Reception Committee had charge of the dinner arrangements which those present voted a big success. J. Dumont Stone, Chairman of the Scientific Committee, made the necessary arrangements for Prof. Schuster's lecture.

Those of us who were fortunate enough to hear Prof. Schuster feel that we owe him a deep debt of gratitude for giving of his time and strength that we might benefit by his renowed knowledge.

The regular monthly meeting of the Monroe County Division was held on Monday, December 5th, at 89 Main Sst., East. Dr. E. M. Golden presided as Chairman. After the usual procedure of the meeting, all members present joined in a very interesting distcussion on the care and treatment of "vascular corns."

MASSACHUSETTS

In spite of a northeast snow storm a goodly number of the members attended the December meeting of the Massachusetts Chiropody Society, Dr. F. E. Hayden, the president presided.

The members heard the first reading of the new by-laws, final action on these comes at the January meeting. A multigraphed copy will be sent to every member in order that they may suggest changes or revisions. These are an extremely progressive set of rules, and when adopted will greatly facilitate the work of the organization. In the new by-laws the terms chiropody and podiatry are used.

The Association voted to remit the dues of the members who were on the sick list. Dr. B. F. Myers of the Kenison office who is in St. Elizabeth Hospital, Brighton, Mass., is reported as improving.

There were two demonstrations in practical chiropody, Dr. Winston Bell of the Kenison office removed a corn from the little toe of a clinic patient, and Dr. Thomas J. Carlton, operated on club nails, with the drill, and removed a soft corn and a sallosity.

One of the important additions to the proposed by-laws is the organization of divisions in centers like, Lawrence, New Bedford, Fall Rive, Taunton, Brockton, Worcester and such places where there are four or more chiropodists practicing.

The Western Division located at Springfield, Mass., elected the following officers for 1922: Dr. F. F. Lewis, Chairman; Dr. L. F. Tebeau, Vice-Chairman; Dr. M. M. Bailey, Secretary-Treasurer. The annual convention of the State Association is to be held at the Copley Plaza, Feb. 22, 1922, members are requested to send in their cards for the advertising program.

VIRGINIA

The regular annual meeting of the Virginia Pedic Association was held on Monday, November 21st, at Murphy's Hotel, Richmond, Va., Dr. W. E. Ellis presiding. After the regular routine of business, the report of the delegate, Dr. N. C. Mueller, to the last convention of the National Association of Chiropodists, was read and appreciated by all present; and the actions taken by the House of Delegates was concurred in.

A committee, consisting of Drs. Mueller, Warwick and W. E. Ellis was appointed to draw up State Constitution and By-laws in conformity with the regulations proposed by the House of Delegates at the last Convention. Dr. Mueller was given a vote of thanks for his activities as delegate to the last convention.

After a two hour scientific discussion on shielding, padding, strapping and the employment of salicylic acid, potassium hydroxide and compd. tincture of benzoin in the treatment of verruca, a recess was taken and all enjoyed a splendid dinner at the hotel.

After again convening the election of officers took place and the following were elected for the ensuing year: President, W. E. Ellis; Vice-President, M. M. Hayes; Secretary-Treasurer, E. A. Warwick. The two members to the Board of Directors chosen are M. G. Shannonhouse, A. Walinski.

It was further agreed that all members shall keep a sharp lookout for any illegal practitioners in the state, as several had been reported, and that the president, as Zone Chairman of the Membership Committee of the N. A. C. should endeavor to bring into the Association such members of the profession in the state, as are desirable. It was further voted upon that this association shall be represented at the next meeting of the Virginia State Board of Medical Examiners to consider improvement of the present Chiropody Law.

CONNECTICUT STATE BOARD EXAMINATION

QUESTIONS

ANATOMY AND HISTOLOGY

1. What bone forms the heel and with what does it articulate?
2. Name five muscles of the back of the leg.
3. Mention a muscle which moves the foot inward.
4. Name and describe the arrangement of the tarsal bones.
5. What nerves supply the dorsum of the foot?
6. Describe in detail the two layers of the epidermis which possess the greatest power of repair and vitality.
7. Describe the horny layers of the epidermis on the plantar surface of the foot as they appear under the microscope.
8. Name the tissues involved if the foot is severed as the tarsometatarso articulation.
9. Describe the internal plantar artery.
10. Describe the nerve supply of the lower extremities.

PHYSIOLOGY

1. (A) Define secretion, (B) Describe the suprarenal bodies and (C) state the symptoms resulting from degeneration of the latter in adult.
2. Describe the patella reflex.
3. Enumerate the changes that take place in the relationship of the structures of the foot when changed from the relaxed to that of the weightbearing position.
4. Differentiate the response to a stimulus in a voluntary and involuntary muscle.
5. What is the best position for the foot and leg when in the standing posture and why?
6. How are the nails nourished?
7. What are the three principal functions of the skin?
8. What varieties of connective tissues are found in the feet?
9. How does a physiologic process differ from a pathologic process?
10. How is the epidermis nourished?

BACTERIOLOGY AND PATHOLOGY

1. Describe the process of (a) primary healing. (b) secondary healing.
2. Define immunity. What is the action of toxins? What is the fate of toxins?
3. Define sepsis.
4. Define Aseptic.
5. Define Asepsis.
6. How does a wound become infected?
7. Describe focal infection.
8. What are the dangers in the use of carbolic acid solution or ointment?
9. Of what do pus cells consist?
10. What purpose does the exuded lymph serve in the process of inflammation?

CHEMISTRY AND HYGIENE

1. What is Monsels salt and for what is it used?
2. How does peroxide of hydrogen act as a disinfectant?
3. Describe Bichlorid of Mercury.
4. What are mineral acids? Name four mineral acids.
5. What kind of water should be used in making a solution of silver nitrate? Why?
6. Describe the purification of water containing insoluble matter and dissolved salts.
7. Give the formula of "Lead and Opium."
8. How do you neutralize the action of carbolic? Nitric Acid?
9. What are the temperatures of the following baths?: Hot bath; Warm bath; Tepid bath.
10. Why is salt beneficial in bathing?

THEORY AND PRACTICE OF CHIROPODY.

1. Give your treatment of ingrown toe nail pus and proud flesh being present.
2. Describe both excision and exfoliating modes of operating on a heloma durum.
3. What is the etiology of a heloma molle and give your treatment.
4. Give the symptoms etiology and treatment of a heloma neurofibrous.
5. What is a vascular corn and what is your treatment?
6. Describe your method for controlling capilliary bleeding.
7. Give symptoms etiology and treatment of flat feet.
8. What would you do with a patient who has fainted?
9. Give the etiology and treatment of a hammer toe.
10. Give three local anaesthetics and state how and when you use them.

MATERIA MEDICA AND THERAPEUTICS

1. What drugs are commonly employed in the treatment of corns, and how should they be used?
2. How is balsam of Peru obtained and for what purpose it is used?
3. How does a stypic differ from a hemostatic.
4. Why is Iodine used in chiropody?
5. Describe the physical and therapeutic properties of Silver Nitrate.
6. Describe the physical and therapeutic properties of orthoform.
7. Describe the effect of continued cold applications to the skin.
8. What is the general effect of massage?
9. Define the difference between Antiseptic and Sterile.
10. What local remedy would you use for excessive itching between the toes?

CONSTITUTIONAL AND SKIN DISEASES

1. Indicate in a general way the external treatment of eczema, acute and chronic. What are the conditions to be overcome?
2. How is diseases of the skin manifested?
3. What are the functions of sebaceous glands?
4. How many types of diabetes are there? Name two.
5. How do you determine that there is no syphilis in your skin disease?
6. Define varicose ulcer.
7. Define indolent of callous ulcer and give your treatment.
8. What is your method of treating a diabetic ulcer?
9. Define anidrosis.
10. Name five diseases of the sweat glands.

ANSWERS

ANATOMY AND HISTOLOGY

1. The heel is formed by the os calcis which articulates with the Astragulus above and with the cuboid in front.

2. Five muscles on the back of the leg are: (1) Gastrocnemeus, (2) soleus, (3) plantaris, (4) flexor longus digitorum, (5) tibialis posticus.

3. A muscle which moves the foot inward is the tibialis anticus.

4. The tarsal bones are seven in number: Oscalcis, astragulus, scaphoid, cuboid, internal cuneiform, middle cuneiform, external cuneiform. They

are arranged in a compact mass so as to give strength, the motions being limited to gliding except in the astragaloscaphoid joint, where there is a ball and socket joint, and in the ankle where there is a hinge joint. The arrangement is such that when the body weight is borne on the foot, the distribution is equalized both toward the heel and toward the ball of the foot. Shock is prevented in this function by this arrangement, hence the arches of the foot.

5. The nerve supply to the dorsum of the foot is as follows: The musculocutaneous, the anterior tibial, and the external saphenous.

6. The two layers of the epidermis that receive the greatest power of repair and vitality are the rete Malpighii and the statum granulosum. The rete rests upon the membrana propria and receives its nourishment by osmosis from the connective tissue structures below. It is composed of about from 5 to 20 layers of cells of the squamous type, all of which have nuclei and the lowermost ones appear to be columnar. The basal layers have the power of regeneration, and the upper layers are called prickle because they have connecting protoplasmic bridges between the cells. The pigment of the skin is contained in the rete and depending upon its location, the complexion of the individual is determined. The stratum granulosum is made up of one or two layers of spindle-shaped nucleated cells which contain granules, hence the name of this layer. The granules are the first step in the hardening process of the cells as they move upward toward the surface.

7. The horny layers of the epidermis are two in number, the stratum lucidum and the stratum corneum. The startum lucidum is made up of two to three layers of translucent, squamous, amorphous cells, which have nuclei only occasionally. This layer represents the second step in the hardening process and contains the chemical called eleidin. The presence of this substance makes the cells translucent. The stratum corneum is made up of many layers depending upon the location and the use of the part. It is a mass of statified squamous epithelial cells which seldom if ever, have a nucleus. The cells in this layer have become completely hardened and are being cast off continuously.

8. The tissues involved are: Skin, fat, superficial fascia, blood vessels, nerves, muscles, tendons, ligaments, connective tissues of all types, expect bone and cartilage.

9. The internal plantar artery is a branch of the posterior tibial artery which branches off below the internal malleoleus. It passes along the inner side of the plantar surface of the foot, and supplies the inner side of the great toe.

10. The nerve supply of the lower extremities is formed the lumbo-sacral cord which arises from the lower portion of the lumbar region and the sacrum and passes from the pelvis through the great sciatic foramen as the great sciatic nerve. This nerve passes down on the posterior portion of the thigh, and at the popliteal space, divided into an internal and external popliteal. These continue to subdivide into the anterior tibial, posterior tibial, musculo-cutaneous and external saphenous. The front of the thigh is supplied by the anterior crural nerve and its branches.

PHYSIOLOGY

(1) a. secretion is a property or function of certain organs or tissues of the body whereby substances are taken from the blood and stored up to be used later by the body for some special purpose such a nutrition, lubrication, etc., or to be excreted as waste.

b. The supraneal glands are two yellowish flattened bodies situated in the back part of the abdomen extraperitoneum, above the kidneys upon each of which one is bound by connective tissue. Each gland is about 3 to 5 c.m long and a little less in width and about 1.5 to 2.5 c.m. in weight. The right suparenal is trangular in shape and situated a little higher than the right gland. The supra renal fluid secreted by these glands is one of those internal secretions or endocrines of which very little is definitely known.

c. The symptoms resulting from degeneration of the supraenal are typified in Addisons Disease, which is characterized by bronzing of the skin and mucous membrane, extreme muscular weakness vomiting, anemia lowering of blood pressure and prostration after resulting in death.

(2) The Patella Reflex is a reflex nerve act invoked by tapping the knee immediately below the patella, the leg being suspended in a state of relaxation as for instance in a sitting posture when one leg is crossed, and is suspend-

ed in relaxation over the other leg. Upon tapping the ligamentino patella as described a stimulus is sent up the afferent sensory nerves to the posterior root gangleon (the sensory relay station). It is then relayed to the sensory portion of the cord thence to the gray matter. This stimulus does not proceed to the brain but is relayed to the motor centers in the anterior horns of the gray matter. From here a motor impulse is sent out over efferent nerve fibers to those muscles inserting into the ligamenticum patella. As this motor impulse reaches these muscles they undergo a spasmodic moncentary contraction jerking the leg sharply into extension. This is succeeded immediately by a resumption of relaxation and the leg again becomes relaxed and suspended completing the so-called patella reflex.

The Patella Reflex is normally present in heath and absent in tabes dorsalis and in multiple schlerosis of the spinal cord.

(3) In a relaxation the foot is in slight extension slight adduction and inversion the anterior metatarsal arch is present and, as also the longitudinal arch, is at its maximum height. The muscles ligaments. fascia and soft tissues are relaxed and flacid, while the bones of the foot in general are in light articulation with those with which the form joins.

Under weight bearing, the foot is normally at right angles to the leg and directed straight forward without inversion or adduction. The metatarsal heads are depressed and spread eliminating the arch formation, the longitudinal arch is depressed and elongated. The muscles are tense maintaining equalibrium and the equal distribution of burden by their antagonistic action to opposing muscle groups. The ligaments and fascia are tensified and the bones in general in close articulation. The soft tissue of the plantar are flattened and broadened out while the whole foot is longer and broader than when in state of relaxation.

(4) The response of voluntary muscles to a stimulus differs from that of involuntary muscle in that while, both respond reflexly similarly to the same sensory stimuli which may be electrical chemical mechanical or thermal, involuntary muscle in certain parts of the body will respond to light as a stimulus while voluntary muscle will not On the other hand voluntary muscle may be controlled by stimulus preceded by volution as will on the part of the individual while involuntary muscle cannot be controlled at will and involves no forethought on the part of the individual in its action.

(5) In the standing posture the best position for the foot and leg is as follows. The legs should be vertical erect firm but not rigid so that the pelvis is born in proper equalibrium and with even weight distribution between them. The feet should be at right angles to the legs parallel to each other about 8 inches apart and directed straight forward. In this position the median line of the body falls directly midway between the feet and the weight is evenly distributed over the bony fromework constituting the base of foundation upon which the body proper rests.

(6). The nails are nourished by the blood supply brought to them by the vessels in the papillary layer immediately underlying the rete cells of the matrix.

(7) The three principal functions of the skin are:

a. To act as a protective covering for the body;

b. To act as a regulator of body tempefature.

c. To act as an organ of tactile sensibility.

(8) The following varieties of connective tissue are found in the foot.

(1) Fibrillar
  a White Fibrous
  b Yellow elastic
(2) Cartilage
  a Hyalin
  b White Fibro
(3) Adipose
(4) Reticular
(5) Bone

(9) A physiologic process differs from a pathologic process in that while a physiologic process is a normal process a pathologic process is an abnormal process present in disease only.

(10) The epidermis is nourished in the following manner: The cells of the upper layers receive no nourishment and hence undergo no nutosis, being forced upward, they finally shed by the reproduction of the basal cells of the reto. These basal rete cells receive their nourishment by an osmotic process, from the blood in the vessels of the papillary layer beneath the entervening membrana propria.

BACTERIOLOGY & PATHOLOGY

(1) a. Primary healing or the healing of incised and aseptic wounds is not usually followed by any great reaction on the part of the tissues. As the edges of the wound are brought into accurate apposition there is little or no blood lodged between them, so that an extremely narrow strip of filbrin glues the cut edges together. This strip is rapidly replaced, mainly by connective tissue cells of the adjoining tissue growing across the temporary filled breach and firmly uniting the two cut surfaces. The vascular changes are practically absent in primary healing.

b. Secondary healing or granulation is usually seen where there has been extensive damage or a loss of tissue. There is usually an extravasation of blood from the severed vessels, which together with the exuded serum coagulate and form a fibrinous mass which acts as protective and temporary scaffolding to the injured tissues. As early as six hours after the injury the polymorpho-nuclear leucocytes pass in large numbers from the dilated and congested blood vessels of the tissues at the margin of the wound into the injured zone, where they carry an active phagocytosis. They appear to prepare the injured zone for the mono-nuclear phagocytes whose function it is to absorb all the waste products prepared for them by the poly-morpho-nuclear phagocytes. Numerous fibrablasts are visible in the fibrin mass, and the vessels at the periphery of the damaged zone are now seen to be sending out offshoots which assist in the process of absorption. These vascular buds grow out in various directions as little solid projections of cells, they then become channelled and form the new but temporary meshwork which completely replaces the mass of fibrin and damaged tissues. After five to seven days there is an active proliferation of the fibroblasts. These cells of various shapes are seen in large numbers mainly lying in the direction parallel to the new vessels which all run at right angles to the wound surface. The branching processes of these cells anastomose and form a delicate supporting network. It is from these cells that the fine fibrillar substance is formed and from this stage onwards, eight to fifteen days, there is a steady increase in new fibriles, giving more density to the new tissue. At the same time the fibroblasts become spindle shaped and their long axis assume a position of right angles to the vessels. As the filbriles become more developed they form fibrous laminae which are laid down in the deeper part of the wound first. When this process has reached a certain stage and all the absorption necessary has occurred the new blood vessels from the increasing pressure of successive fibrous years, gradually dwindle and become obliterated. i.e. at a period corresponding to the condensation of the fibrinous laminae and the disappearance of the cellular character of the granulations tissue. This is formed in the damaged area a permanent tissue known as scar tissue.

(2) a Immunity is the lack of susceptibility to bacterial disease and a power of resistance which enabled us to recover from bacterial disease if it develops.

b The special selective action or affinity, which seems to exist between certain toxins and certain tissues depends upon the ability of the poisons to enter into union with the tissue cells. When once united with the cell the toxins destroy the cell by dissolving or precipitating the protopalsm of the cell.

c Toxins are neutralized in the body and excreted by the excretory organs.

(3) Sepsis is a condition in which there are pathogenic micro-organism present.

(4) Aseptic is a condition in which an object or an operation is free from living pathogenic micro-organism.

(5) Asepsis is a condition in which living bacteria are absent.

(6) A wound becomes infected when bacteria in sufficiently large numbers enter, and successfully multiply.

(7) When pathogenic bacteria lodge and successfully multiply in a cavity that cannot be drained is said to be a focus. The waste products or toxins of these bacteria usually have access to the blood stream, otherwise the bacteria would be destroyed by their own excretions. These toxins are circulated by the blood to certain parts of the body for which the toxins have a selective affinity, and by uniting with the tissues of the part set up pathologic processes charcateristic of the bacteria in the focus. The formation of these lesions by toxins from bacteria in fact situated in remote parts of the body is called a focal infection.

(8) Carbolic acid solution or oint-

ment is absorbed by the unbroken skin. The absorption of carbolic acid when used in solution or in an ointment may produce symptoms of poisoning and sudden collapse by action on the central nervous system. It may also cause gangrene of the part upon which it is applied if the acid is allowed to remain for any length of time.

(9) A pus cell consists of a granular usually round mass of protoplasm containing fat-droplets and digested tissues bacteria and toxins.

(10) Lymph exuded in an inflammatory process serves to dilute toxins and act as a barrier to bacteria. It supplies nourishment for the leucocytes in the inflammatory area and removes the waste products. It also contains ferments and other substances which act upon the bacteria and their toxins by destroying or neutralizing them.

CHEMISTRY AND HYGIENE

(1) Monsels salts is Ferric sub-sulphate and is used as a styptic.

(2) H_2O_2 acts as a disinfectant by liberating nasant oxygen, which oxidizes and destroys living micro-organisms.

(3) Bichloride of mercury, known as corrosive sublimate, comes either as a white heavy powder or in small crystals. It dissolves easily in water, alcohol, ether and glycerine, the solutions being strongly poisonous and antiseptic.

(4) Mineral acids are those that are derived from elements of inorganic nature. Ex. Hcl; H_2SO_4; HNO_3; H_3PO_4.

(5) Distilled water should be used in making a solution of $AgNO_3$. Water contains chlorides and if not distilled they will break up the nitrate of silver and form silver chlorides.

(6) Water is purified of insoluble matter by filtration, and of dissolved salts by distillation.

(7) 128 grs. Lead Acetate and 4 drams tincture of opium, aqua, q.s. one pint.

(8) Neutralize the action of carbolic by alcohol. Of nitric acid by large quantities of lime water (CaOH) or ammonium hydroxide (NH_4OH) followed by dilute hydrochloric acid (HCl).

(9) Hotbath—110°-120°F.
Warm bath—90°-100°F.
Tepid bath—80°-90°F.

(10 Salt is beneficial in bathing because the salt in solution ionizes the water. (The ionized solution is capable of supporting an electrical molecular activity.) The ionized solution stimulates the ionic interchange of the superficial, electrical elements of the skin.

THEORY AND PRACTICE IN CHIROPODY

1. There are two distinct methods of operative technic in cases of onychocryptosis, the radical and palliative.

The radical method, under local anesthesia, should only be practiced when absolutely necessary. The palliative treatment should be the one instituted whenever possible.

Proper aseptic precautions must be observed, such as the sterilization of the instruments, hands of operator, and the field of operation. A small cut is made with a sterile nail clipper, in the free edge of the nail on the affected side, a chisel is then placed in this notch and gentle, but firm pressure is exerted so that the chisel splits the nail. The cut is made in the shape of an arc completely enveloping the affected area, the broadest part of the arc being at the free edge, and gradually reducing in width as the lateral edge is reached. The loosened portion of the nail is then removed as well as any remaining jagged pieces, the proud flesh is snipped off, or is treated with silver nitrate, 50%. The parts should be irrigated with either alcohol, 60%, or bichloride of mercury, 1-4000. Peroxide of hydrogen may be used when pus is present. The nail groove is packed with sterile gauze, and wet dressings of Burow's solution or bichloride of mercury, 1-5000, used for 24 to 48 hours. When congestion is relieved subsequent dressings may consist of ointments to stimulate as balsam of Peru, 5%, or ichthyol, 10 to 25%.

2. The radical method is done under local anesthesia, 1% novocain. The parts are thoroughly asepticized by washing with tincture of green soap, followed by alcohol, 60%, and finally painting the entire surface with iodine. The instruments, syringe, needle to be used are boiled in water for 10 to 20 minutes, and the hands of the operator rendered sterile. When the part is thoroughly anesthetized two semi-elliptic incisions are made through the skin, meeting at their extremities. These incisions should completely envelope the growth. The tissues between the incisions are seized with artery forceps and the entire wedge dissected out.

The edges are brought together by one or two sutures where the wound is large, and if the wound is small it may be dressed and allowed to heal by granulation.

The exfoliating mode of operating consists of the application of palliative agents as salicylic acid or silver nitrate. These agents cause desiccation and shrinkage of the horny growth. The treatment is usually long and tedious, as many applications of the drugs are necessary to obtain a good result. In applying either salicylic acid, or silver nitrate, the surrounding healthy tissues must be protected. A shield can be fitted over the growth and salicylic placed in the aperture and the entire dressing covered with adhesive plaster. Dressing should be removed in 2 or 3 days and the macerated tissues scraped away. If necessary treatment is repeated.

3. Heloma molle is due to lateral pressure upon the toes causing the base of one phalanx to press against the head of its neighboring phalanx thereby producing an overgrowth of the skin cells. Continued perspiration without evaporation causes an accumulation of moisture which acting upon the growth produces a soft, macerated mass.

Treatment of this condition is non-radical surgical and therapeutic, the latter being most frequently used as it is often impossible to use a knife.

Non-radical surgical consists of removing the heloma, as in heloma durum, by cutting away a section with a sterile "golfstick," or soft corn spoon, until the normal tissue is reached.

The therapeutic method consists of the use of silver nitrate or salicylic acid, the former being used only occasionally as it is a powerful caustic, and unless applied with care may produce harmful results. Salicylic acid, 15% is applied, where the growth cannot be removed by knife, applied over growth, taking care to protect surrounding tissues, and covered with a cocoon dressing, or if a shield is used, placed in the aperture of the shield. Dressing allowed to remain for from 4 to 7 days, depending upon the thickness of the skin. When the dressing is removed the entire mass as a rule, will be loosened from the tissues beneath.

4. Symptoms: Growths usually appear on the inner plantar edge of the great toe, and sometimes on the outer plantar edge of the metatarsophlangeal joint of the fifth toe. Pain is very severe. These helomata consist of two or three little irregularly shaped structures extending downward into the derma, and in juxtaposition to each other, the septum dividing these structures being made up of one or more rows of enlarged papillae which have become highly vitalized through the enlargement of the nerve fibres contained in them.

Etiology: Due to intermittant friction or pressure. Their appearance on the plantar edges seems to be the fact that the long papillae of the plantar surface, leave off abruptly and are joined by the shorter ones of the dorsum. The line of junction is undoubtedly subjected to a greater degree of irritation than when the size of the papillae is uniform.

Treatment: Great care must be exercised when operating on a heloma neurofibrous, as this condition is very painful. Under local anesthesia (1% novocain) fulguration may be employed in the removal of the growth. Fulguration is accomplished by the use of the sparks of the high frequency current.The fulguration electrode is placed directly over and in close contact with the growth, the current is turned on, and the spark enters the growth. When the entire surface turns white the current is turned off. The part is dressed with a well skived shield to afford protection. Electrolysis may also be used in the treatment of this condition.

5: Heloma vasculare, or vascular corn, is an overgrowth of the spidermis in which enlarged and elongated blood vessels are found.

Treatment: Surgical, medical and mechanical.

Surgical: Parts asepticized, instruments sterilized, and under local anesthesia a semi-eliptic incision is made a little to the outside of the growth. The flap is seized with an artery forceps and the growth dissected out. A few layers of gauze should be placed over the part to produce pressure and a bandage applied over all. This is removed in 2 or 3 days and the subsequent dressings should contain balsam of Peru or some other stimulant.

Medicinal, or chemical treatment consists of gradual destruction of the growth by chemicals such as salicylic acid, potassium hydroxide, or nitric acid. If nitric acid is used the callous is removed so as to produce a slight oozing of blood, and a drop of

nirtic acid is allowed to fall in the center of the mass. This is allowed to remain about 2 days when the eschar is removed and the acid reapplied. Treatment is continued until the growth is entirely destroyed.

Mechancial treatment consists of the removal of the growth by electricity. Fulguration and electrolysis are the two methods employed.

6. Capillary bleeding, as a rule, is easily controlled by digital pressure applied until coagulation is complete, a wad of sterile gauze being used between the thumb and the wound. Styptics, as Monsell's solution, subsulphate of iron, may also be used. After either of these methods dress wound antiseptically.

7. Symptoms: Feet burn and tire easily, may swell. Later a painful period generally begins in which walking is avoided and a dragging pain in the arch and behind the inner malleolus is noticed. The inner malleolus generally more prominent, and the foot is displaced outward. The foot appears flat both under weight bearing and at rest and is continually held in abduction.

Etiology: Improper shoes the most frequent cause; weakness and insufficiency of muscles; prolonged standing or walking on unelastic ground; increase in body weight; and shortened gastrocnemius.

Treatment: Baking; massage; overcorrection by strapping and the raising of the inner border of the shoe. Exercise should be instituted to stretch the muscles on the inner side of the foot. In flat-foot of TB origin there is no correction. Where there is a shortening of the peronei muscles massage, etc., may not help this condition when of long duration, therefore in cases of long duration it is best to turn same over to an orthopedic surgeon for the performance of a tenotomy.

8. Loosen all tight clothing, change air in the room, place the patient in a reclining position. If conscious give aromatic spirits of ammonia, ½-teaspoonful to glass of water 1-4 glass of water, and use stimulants as whiskey or hot coffee. In unconsciousness use cold applications to the face, chest or over heart. If there is a sign of faintness, before its actual occurrence, have patient hold head between the knees, which will bring the blood quickly to the head.

9. Hallux flexus or hammer toe, may be congenital, or shoe pressure may cause flexion of the affected toe at its second joint so that the end bears on the ground, the junction between the phalanges making a prominence upward.

Treatment: Operation is usually indicated particularly in adults. In children children passive manipulation. Appliances are not effective, the operation being the surest cure, advising ankylosis.

10. Three local anesthetics are cocaine, novocain and alypin. These are used by hypodermic injection, and are employed when a local area is to be operated upon where structures below the epidermis are involved.

MATERIA MEDICA—THERAPEUTICS

1. The drugs commonly employed in the treatment of corns are salicylic acid and silver nitrate.

Salicylic acid may be used in ointment from 25% or in collodoin 15 grains salicylic acid to two drams collodin.

Silver Nitrate is employed in cases of heloma molle in a strength of from 25 to 50%. Used on account of its caustic effect as well as drying and hardening effect.

2. Balsam of Peru is a thick black substance obtained by extraction from the myroxylon pereirae tree. It is used for the purpose of stimulating granulations in wounds, ulcers and chronic diseases. It also has an antiseptic and soothing action.

3. A styptic is an agent externally and directly to the part to arrest hemorrhage. An hemostatic is an agent given internally to arrest hemorrhage in a remote part.

4. Iodine is used in chiropody chiefly on account of its being a strong antiseptic. Used to prepare the skin for an operation. It is also used as a counter-irritant.

5. The physical properties of silver nitrate (Ag NO3). It appears in the form of colorless rhombic crystals which turn black on exposure to light, bitter taste, neutral reaction, and soluable in water. Must be kept in amber colored bottles.

Therapeutic properties. In a weak solution it has an antiseptic and astringent effect. It has a slight styptic action. In a strong solution it is caustic in action.

6. The physical properties of orthoform (Meta-amido-para-oxybenezoicacid methylester). It is a white voluminous

odorless, tasteless and non-hygroscopic powder which is but slightly soluable in water, readily so in alcohol, ether, and collodion.

Therapeutic properties of orthoform. It is used as an analgesic in cases of painful wounds, ulcers, burns, excoriations and all exposed nerve endings.

7. Cold is a vital depressant. A low temperature in whatever way produced, checks cell or protoplasmic activity. If the application is continued for a long time, the vital depression continues, and is maintained for a time after withdrawal of the application. The longer the application the longer the depression that follows. Sooner or later, however, the parts return to their normal condition and if the depression has not been so great nor so prolonged as to damage the parts vitality, in the return to normal activity the pendulum swings, so to speak, beyond the normal line so that for a time a higher degree of vital activity is maintained than before the application.

8. The general effects of massage are:

Increase of circulatory activity.

Stimulation of all the functions of the skin and promotion of reaction.

Promotion of nutritive changes in the muscles.

9. Sterile means being free of living pathogenic bacteria. Antiseptic means the inhibition or prevention of growth of bacteria which cause disease, fermentation, or decomposition.

10. To relieve excessive itching between the toes use an ointment such containing phenol ointment or a lotion may be used as the calomine lotion containing phenol.

CONSTITUTIONAL AND SKIN DISEASES

1. The conditions to be overcome by external treatment are congestion, exudation, infiltration and the subjective symptom, itching. In the chronic forms there is more cell infiltration about the intrapapillary vessels, with less exudation among the epidermal cells. The chronic type is more leathery and dryer.

Generally speaking acute types should be soothed and chronic types stimulated. In acute eczema the use of soap and water for cleansing purposes should be replaced by that of oil or cold cream. Even strong soaps may be necessary in chronic types.

For moist acute eczema clear lotions, lotions with sediment or soothing, astringent, absorptive pastes, such as boric acid lotion, the calamine-zinc oxide lotion and Lassar's paste may be use. Later, when the exudation has subsided, a soothing, astringent and protective ointment should be substituted. To each of the above preparations phenol may be added to relieve intense itching.

For chronic types some tarry preparation is useful. Mercury or sulphur in small percentages are often beneficial. A satisfactory ointment for this type would be: phenol, 2 parts, oil of cade, 6 parts and zinc ointment, 92 parts.

Fissures should be stimulated by 10 per cent silver nitrate solution.

2. Disease of the skin is manifested by changes in the anatomic structure of the skin and by subjective symptoms, such as itching burning or pain. Changes in the structure of the skin may be evidenced by alteration in color and by the formation of elemental lesions, such as macules, papules, vesicles, pustules, wheals, nodules, gummata, ulcers, scars, etc., and by secondary formations, such as patches.

3. The functions of the sebaceous glands are excretion and secretion. The substance formed, sebum, is composed of remants of epithelial cells, inorganic salts, fats, soaps and a trace of cholesterin. Sebum serves to lubricate and protect the skin and hair.

4. There are two types of diabetes generally recognized: Diabetes mellitus, in which there is glycosuria of high specific gravity and diabetes insipidus in which there is polyuria of low specific gravity.

5. Syphilis may be excluded in the diagnosis of a skin disease by the absence of characteristic clinical evidence of the disease in its early or late stages. In the majority of cases a negative Wasserman reaction would be of value. In moist lesions the absence of the spirocheta pallida might help in the determination.

6. A varicose ulcer is a variously sized localized excavation of the skin over, or in connection with, a varicose vein. They may be superficial or deep and may be caused by mechanical pressure, nutritive disturbances or by bacterial action.

7. An indolent or callous ulcer is a chronic sluggish excavation usually of the integument, in which there is little or no tendency to healing, no healthy

granulations. The edges are usually sharply cut, oedematous and elevated. The base may adhere to underlying tissues. It usually presents a glazed surface covered with membranous exudate. There is usually a surrounding cellulitis.

Treatment consists in rest and elevation of the limb with proper bandaging to aid the circulation. Inflammation may be reduced by wet dressings of boric acid solution, Thiersch's solution, Burow's solution, etc., changed regularly and not covered with an impervious tissue if there is much pus. After the surrounding inflammation has subsided the chronic membranous base of the ulcer may be cleansed by light curetting, by stimulation with silver nitrate solution, 20%, or the use of a weak solution of formaldehyde. For stimulating granulations an ointment containing the red subiodide of bismuth, 20 or 30 grains to an ounce of zinc oxide ointment, to which may be added 2 drachms of starch if there is much pus, is effective. Similarly balsam of Peru, either pure or with equal parts of castor oil; scarlet red in varying strengths, etc., may be tried. When granulation has approached the level of the skin it is wise to discontinue other applications in favor of a powder such as thymol iodide.

8. Until the glycosuria has disappeared or has been greatly reduced one cannot expect much beneficial change in a diabetic ulcer. Cooperation with an experienced physician is necessary. Locally, when patient is sugar-free, the ulcer, which has been kept dressed with mild antiseptics which have served to reduce local inflammation, may be stimulated with a weak solution of silver nitrate, followed by the use of ointments or powders to promote production of healthy granulations.

9. Anidrosis is a functional disorder of the sweat glands characterized by diminution of suppression of sweat. It may be generalized or localized.

10. Hyperidrosis, anidrosis, bromidrosis, chromidrosis, uridrosis.

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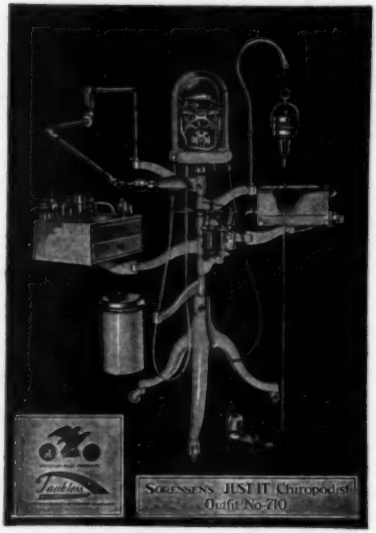

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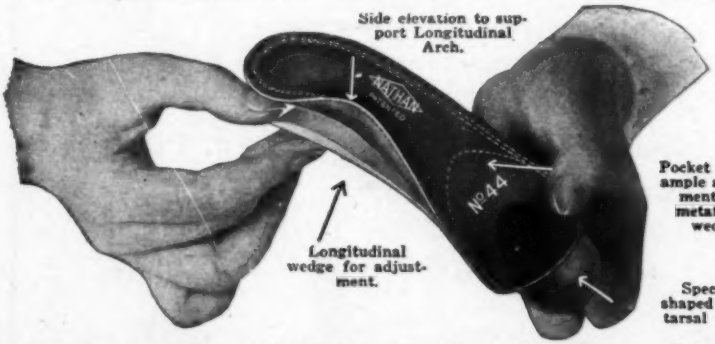
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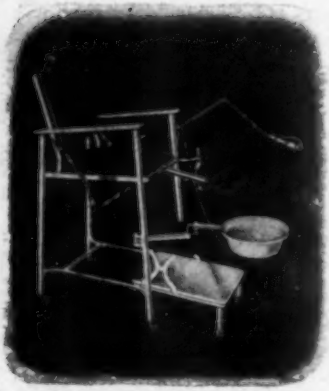

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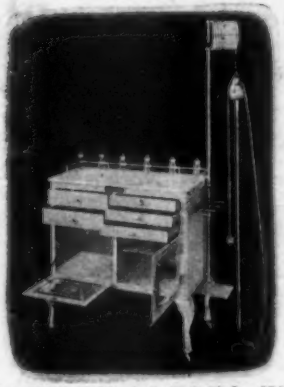

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